May 30, 1933. R. HELMER 1,911,277

FILING DEVICE

Filed Feb. 4, 1932

Fig. 1.

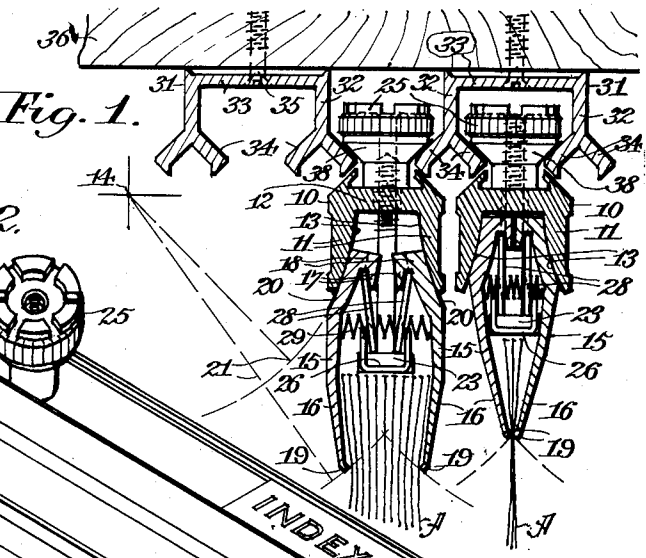
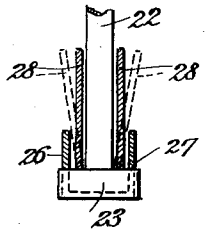


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.



WITNESS

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UNITED STATES PATENT OFFICE

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FILING DEVICE

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This invention relates to a device which is designed and adapted for filing and handling blue prints, maps, charts and all kinds of sheets or the like containing reference information.

One of the objects of the invention is the provision of a device of the indicated character embodying improvements to the end that numerous sheets and the like may be hung in an orderly manner conveniently accessible.

Another object is the provision in a filing device of a type of holder which embodies improvements whereby one or a plurality of sheets may be retained thereby, and whereby such sheets may be readily inserted for retention and suspension and also may be readily removed whenever the occasion arises.

Another object of the invention is the provision of improvements in a filing device whereby exceptionally large sheets and the like may be kept in holders slidably supported on rails or tracks of such construction and arrangement that such result is accomplished in an economic manner.

The nature of the invention and its distinguishing features and advantages will appear when the following specification is read in connection with the accompanying drawing, in which

Figure 1 is a sectional view illustrating certain features of the device;

Figure 2 is a fragmentary perspective view of one of the holders of the device;

Figure 3 is a fragmentary perspective view of a cabinet embodying the device indicated in accordance with the invention;

Figure 4 is a perspective view of an assembly of parts of the pressure exerting and distributing means;

Figure 5 is an enlarged section taken on the line 5—5 of Figure 4.

The device of the present invention will consist of a plurality of similar holders and similar supports or rails for the holders. These holders are designed and adapted to retain for filing and handling blue prints, maps, charts and like mediums containing reference information. Each holder consists of a binder part 10, preferably of metal and of channel construction of any desired length. The binder part 10 being of channel construction consists of side flanges 11 joined by a connecting section or back 12. The inside of each flange 11 has a curved camming surface 13, the curvature of the surface 13 being on an arc struck from a point 14, shown in Figure 1, outside of the physical structure of the part 10. The holder also includes two similar gripping members 15, which will be made preferably of metal, and are of an irregular construction substantially equal in length to the length of the binder part 10. Each gripping member 15 consists of a relatively wide jaw 16, relatively narrow flange 17 and section 18 which connects the jaw 16 and flange 17. The jaw 16 has an inturned gripping edge 19. The gripping members 15 cooperate with the binder part 10 to produce the necessary gripping action to retain one or more of the articles hereinabove mentioned. To this end the gripping members 15 are provided with curved camming surfaces 20 which are complemental to the surfaces 13 of the part 10. Attention is called to the fact that these curved camming surfaces 13 and 20 cause the gripping members to move in arcuate paths, as indicated by the radial and arcuate lines 21 in Figure 1. This movement of the gripping members 15 is caused when pressure is applied to the binder part 10 and the gripping members 15 to draw the members into said part 10. The means for exerting or applying the pressure includes a screw bolt 22 having a square head 23 on one end, and its opposite end being threaded as at 24. A nut 25 is adapted for threading engagement with the threaded end 24 of the bolt 22, and said nut is provided with a knurled edge and is also castellated on top for both hand and spanner operation. A keeper or retainer 26 in the form of a channel is applied to the head 23 of the bolt; the said keeper being provided with a notch 27 to receive the head 23. It will be apparent that the bolt cannot turn relatively to the keeper 26 by reason of the head 23 being received in the notch 27. The bolt 22 extends loosely through a hole in the back 12 of the part 10. The pressure exert-

ing means also includes elongated pressure distributing bars 28. The bars 28 are arranged respectively on opposite sides of the bolt 22 and interpose the head 23 of the bolt and the sections 18 of the gripping members 15, when all of the parts of the holder are properly assembled, as shown most clearly in Figure 1. It will be apparent that the upper edges of the bars 28 are disposed between the jaws 16 and flanges 17. The bars 28 are free to adjust themselves in accordance with the various positions assumed by the gripping members 15.

The parts of the holder when assembled enable a person to rotate the nut 25 which will be in contact with the back 12 of the binder part 10, causing the gripping members to move in the arcuate paths indicated, and, as a consequence, these gripping members 15 will be brought together in gripping engagement with the article or articles to be retained. In this connection it will be apparent that the surfaces 20 of the gripping members 15 will ride on the surfaces 13 of the flanges 11.

In the present instance, coil expansion springs 29 are employed to cause relative separating movement of the gripping members 15. These springs are arranged so that the opposite ends thereof will be in engagement with the jaws 16. The springs 29 extend transversely through the bars 28, the latter having holes 30 for this purpose. It will be apparent that these springs 29 will also limit the endwise movement of the bars 28 in relation to the gripping members 15, since the springs will encounter the ends of the keeper 26.

As stated hereinabove, the device includes suitable supports or rails, and these are shown in Figures 1 and 3. These supports are of similar construction, and will be so arranged that two of them will support three of the holders thereby effecting an economy. Each support 31 is of channel construction and therefore consists of side flanges 32 connected by a section 33. Each of the flanges 32 has relatively downwardly diverging rails 34. The supports 31 may be secured in place in any suitable manner, such as by the use of fastening elements or screws 35 which pass through the sections 33. These supports 31 may be fastened side by side in spaced relation to the under side of the top 36 of a cabinet 37, a portion of the latter being shown in Figure 3. On reference to Figure 1, it will be apparent that the rails 34 of one support accommodate the conical section 38 of the nut 25 of the related holder, and that the adjacent rails 34 of the two supports 31 shown accommodate the conical section 38 of the nut 25 of the other holder. It is to be understood that more than one pressure bolt 22 may be used and so prevent the holder from turning in relation to the rails. In the present instance turning movement of these holders is prevented by relatively upwardly converging flanges 39 which may engage the adjacent rails 34. Each holder will be slidably supported on the rails 34, and may be readily slid in place within a cabinet and also may be readily removed whenever the occasion arises. In this manner blue prints, maps, charts and similar articles A containing reference information may be hung in an orderly manner conveniently accessible.

The flanges 39 on the binder part 10 of each holder constitute means for accommodating a suitable index label 40, shown in Figure 2.

I claim:

1. In a filing device of the class described, cooperative gripping members, and pressure distributing means which acts on said gripping members to cause them to exert uniform gripping pressure throughout.

2. In a filing device of the class described, cooperative gripping members, pressure distributing bars which act on said gripping members, and means to exert pressure on said bars to cause them to impart pressure on said gripping members.

3. In a filing device of the class described, cooperative gripping members, pressure distributing bars which act on said gripping members, and means to exert pressure on said bars to cause them to impart pressure on said gripping members, said means including a channel member engageable with said bars.

4. In a filing device of the class described, cooperative gripping members, pressure distributing bars which act on said gripping members, and means to exert pressure on said bars to cause them to impart pressure on said gripping members to cause the latter to grip, said means including a channel member engageable with said bars, a screw bolt engageable with and kept from turning in relation to said channel member, and a pressure applying nut in threading engagement with said bolt.

5. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, and means to draw said members into said binder part.

6. In a filing device of the class described, a binder part of channel construction, two long co-operative gripping members, said members and the opposed sides of said binder part having complemental camming surfaces which cause said members to move toward each other and grip when drawn into said binder part, and means to draw said members into said binder part.

7. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, means to draw said members into said binder part, and resilient means to cause relative separating movement of said gripping members when said second means is released.

8. In a filing device of the class described, a binder part of channel construction, two long co-operative gripping members, said members and the opposed sides of said binder part having complemental camming surfaces which cause said members to move toward each other and grip when drawn into said binder part, and means to draw said members into said binder part.

9. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, and means to draw said members into said binder part, said second means including a head adapted to be received by a suitable support to slidably sustain the device.

10. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, and means to draw said members into said binder part, said second means including long pressure distributing bars which are parallel to and engage said gripping members, and which are freely adjustable to accommodate various positions of said gripping members.

11. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, means to draw said members into said binder part, said second means including long pressure distributing bars which are parallel to and engage said gripping members and which are freely adjustable to accommodate various positions of said gripping members and means limiting the endwise movement of said bars.

12. In a filing device of the class described, a binder part of channel construction, two long co-operative gripping members, said members and the opposed sides of said binder part having complemental camming surfaces which cause said members to move toward each other and grip when drawn into said binder part, means to draw said members into said binder part, and means to cause the relative separating movement of said gripping members as said second means is released.

13. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, means to draw said members into said binder part, said second means including long pressure distributing bars which are parallel to and engage said gripping members; and springs arranged transversely of said bars in such manner as to cause the separating movement of said gripping members as said second means is released.

14. In a filing device of the class described, a binder part of channel construction the inner sides of which provide camming means, two long co-operative gripping members disposed and adapted to be acted on by said camming means to cause said members to move toward each other and grip when drawn into said binder part, and means to draw said members into said binder part, said second means comprising a bolt extending through said binder part and having a pressure applying head engageable with said binder part, a retainer carried by said bolt, and pressure distributing bars interposing the retainer and gripping members and which are freely adjustable to accommodate various positions of said gripping members.

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